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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,192	11/29/2000	Matthew Andrews	554-250( ANDREWS 7-6-25-5	5966
26291	7590	04/21/2005	EXAMINER	
MOSER, PATTERSON & SHERIDAN L.L.P. 595 SHREWSBURY AVE, STE 100 FIRST FLOOR SHREWSBURY, NJ 07702			JACOBS, LASHONDA T	
			ART UNIT	PAPER NUMBER
			2157	

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/726,192

Applicant(s)

ANDREWS ET AL.

Examiner

LaShonda T Jacobs

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

This Office Action is in response to Applicant's Amendment/Request for Reconsideration filed on January 6, 2005. Claims 1-21 are presented for further examination.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1-10, 14** and **16-21** are rejected under 35 U.S.C. 102(e) as being anticipated by Swildens et al (hereinafter, "Swildens", U.S. Pat. No. 6,754,706).

As per claim **1** and **16**, Swildens discloses a method for determining at least one best-performing content server in response to a request in a network including a plurality of content servers, at least one redirection server, and a plurality of clients, the method comprising the steps of:

- creating a plurality of client clusters (abstract and col. 4, lines 9-14).
- wherein each of said plurality of client clusters includes one or more clients having similar network distance (col. 4, lines 9-19 and col. 5, lines 43-53);

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- identifying said at least one best-performing content server for each of said plurality of client clusters by determining network distances between each of said plurality of client clusters and each of said plurality of content servers and selecting at least one content server for each of said plurality of client clusters having a minimum network distance there between (col. 6, lines 26-37 and col. 8, lines 27-67); and
- mapping each of said plurality of client clusters to a corresponding said at least one identified best-performing content server (col. 8, lines 27-67).

As per claim 2, Swildens discloses:

- wherein the redirection server is an authoritative domain name (DN) server which receives said requests from a plurality of local DNS servers (col. 4, lines 46-67 and col. 5, lines 12-19).

As per claim 3, Swildens discloses:

- wherein the request is a domain name (DN) request (col. 4, lines 44-52).

As per claim 5 and 18, Swildens discloses:

- wherein the step of creating said plurality of client clusters includes the step of obtaining distance and load information from each of said plurality of content servers (col. 4, lines 9-14).

As per claims 6 and 19, Swildens discloses wherein the step of obtaining distance information includes the steps of:

- collecting at said plurality of content servers a plurality of distance tuples wherein each distance tuple comprises one or more of the following: a network distance, a content

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server identifier, a time-stamp, and a client internet protocol (IP) address (col. 5, lines 66-67 and col. 6, lines 1-6); and

- collecting at said plurality of content servers a plurality of load tuples wherein each load tuple comprises one or more of the following: a time-stamp, a content-server ID, a client IP address, a number of hits, and a domain index (col. 5, lines 66-67 and col. 6, lines 1-6).

As per claim 7, Swildens discloses:

- pulling said plurality of distance and load tuples from each of said plurality of content servers at successive data acquisition intervals and storing the plurality of distance and load tuples at said at least one redirection server (col. 5, lines 66-67 and col. 6, lines 1-6).

As per claim 8, Swildens discloses:

- multiplying certain data values of said plurality of distance and load tuples by a weighting factor in each of said successive data acquisition intervals (col. 5, lines 66-67 and col. 6, lines 1-6).

As per claim 9, Swildens discloses:

- wherein said network distance is computed as one of a round trip time, jitter, bandwidth and packet loss (col. 6, lines 29-33).

As per claim 10, Swildens discloses:

- wherein said round trip time is computed by monitoring all data packets transmitted and received by one of said plurality of content servers (col. 6, lines 29-33).

As per claims 4 and 17, Swildens discloses:

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- the step of assigning a selection probability to each of said at least one identified best-performing content server, wherein said selection probability ensures that a maximum service capacity of each of said at least one identified best performing content server is never exceeded (col. 6, lines 29-33).

As per claim **14**, Swildens discloses:

- wherein the step of mapping each of said plurality of client clusters with the corresponding, said at least one the identified best-performing content server comprises the step of assigning an assignment probability to each of said at least one identified best-performing content server (col. 6, lines 29-33).

As per claim **20**, Swildens discloses:

- means for modifying said determined network distance according to the number of distance tuples received (col. 5, lines 66-67 and col. 6, lines 1-6).

As per claim **21**, Swildens discloses:

- means for maintaining said identification of said at least one identified best performing content server for an amount of time determined by a confidence level calculation (col. 6, lines 29-33).

3. Claims **11-13** and **15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Swildens in view of Srinivasan et al (hereinafter, "Srinivasan", U.S. Pat. No. 6,237,061).

As per claim **11**, Swildens discloses:

- pruning said hierarchical tree structure to determine said plurality of client clusters (abstract and col. 4, lines 9-14).

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Srinivasan discloses a method for longest prefix matching in a content addressable memory comprising:

- grouping distance tuples according to content server ID and CIDR prefix similarity to obtain data values for each grouping (col. 5, lines 34-44 and col. 6, lines 27-48);
- storing said data values at respective leaf nodes of a hierarchical tree structure wherein said hierarchical tree structure includes connected nodes including a root node and a plurality of interior and leaf nodes such that an entire CIDR address space is represented by said root node (col. 5, lines 34-44 and col. 6, lines 27-48).

Given teaching of Srinivasan, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Swildens by implementing CIDR addressing to perform multiple searches for each incoming destination address to locate the CAM entry having the longest matching prefix allowing for more efficient use of IP addresses.

As per claim **12**, Swildens discloses:

- wherein said data values stored at each of said respective leaf nodes include for at least one of said plurality of content servers: a sum of network distances, a sum of the squares of network distances, and a total number of received tuples (col. 5, lines 66-67 and col. 6, lines 1-6).

As per claim **13**, Swildens discloses:

- wherein the pruning step further comprises the steps of comparing sibling leaf nodes in said tree structure to determine whether there is sufficient similarity (col. 6, lines 57-65);

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- combining said sibling leaf nodes into a parent node if sufficient similarity exists (col. 7, lines 17-27);
- repeating the comparing and combining steps if sufficient similarity exists (col. 7, lines 17-27); and
- identifying remaining leaf nodes as said client clusters if sufficient similarity does not exist (col. 6, lines 57-65).

As per claim **15**, Swildens discloses:

- wherein said assignment probabilities for each of said at least one identified best-performing content server is obtained from a flow map characterizing data flow in the network (col. 6, lines 29-33).

### *Response to Arguments*

4. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 6,484,143 to Swildens et al

U.S. Pat. No. 6,795,860 to Shah

U.S. Pat. No. 6,446,121 to Shah et al

U.S. Pat. No. 6,633,953 to Stark



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U.S. Pat. No. 6,810,411 to Coughlin et al

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaShonda T. Jacobs whose telephone number is 703-305-7494.


The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 703-308-7562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LaShonda T. Jacobs  
Examiner  
Art Unit 2157

ltj  
April 8, 2005

  
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